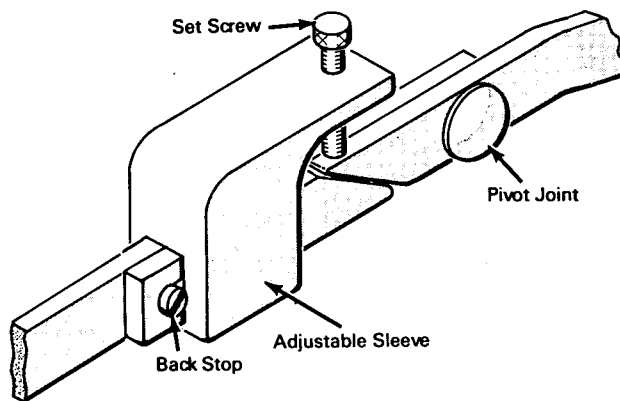


# NASA TECH BRIEF



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## Adjustable Hinge Permits Movement of Knee in Plaster Cast



ADJUSTABLE KNEE HINGE IN LOCKED POSITION

### The problem:

To design an adjustable metal knee hinge to be installed in a plastic leg cast to facilitate movement of the knee joint. The knee hinge should help eliminate stiffness of the knee that results from the use of a solid cast. Prior art used a knee hinge of flat stock material that was bulky and difficult to adjust.

### The solution:

A metal knee hinge with an adjustable sleeve to be worn on the outside of a leg cast.

### How it's done:

The metal knee hinge is equipped with an adjustable sleeve that can be slipped over the pivot joint to lock the brace into an immovable position. The sleeve can also be slid back to a stop pin where a degree of movement is allowed. The extent of allowable movement or travel is determined by the setting of a set screw that is mounted in the top of the adjustable sleeve. The screw can be adjusted to allow approximately 35° of travel from the locked position. The other knee hinge on the inner side of the leg cast is

equipped with a straight sleeve as utilized in most braces.

### Notes:

1. The position setting of the hinge can be manipulated through most trouser materials, eliminating the necessity of removing or slitting the trousers.
2. When the cast can be hinged at the knee it affords greater comfort while sitting and should allow for better circulation in the leg.
3. Inquiries concerning this invention may be directed to:

Technology Utilization Officer  
Marshall Space Flight Center  
Huntsville, Alabama 35812  
Reference: B67-10056

### Patent status:

Inquiries about obtaining rights for the commercial use of this invention may be made to NASA, Code GP, Washington, D.C. 20546.

Source: William E. Maley  
(M-FS-1756)  
Category 04